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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,832

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EXAMINER

GAWORECKI, MARK R

ART UNIT

PAPER NUMBER

2884

MAIL DATE

DELIVERY MODE

06/22/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/567,832	Applicant(s) KARIM, KARIM S.	
	Examiner MARK R. GAWORECKI	Art Unit 2884	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-21 and 25-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20,21,26 and 27 is/are allowed.
- 6) ☒ Claim(s) 2,3,5,6,9-15,25,28 and 29 is/are rejected.
- 7) ☒ Claim(s) 4,7,8 and 16-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/4/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 4 June 2009 has been entered.

2. The indicated allowability of claims 2, 3, 5, 6, 9-15, 25, 28, and 29 is withdrawn in view of the newly discovered reference(s) to Miida (2002/134918) and Zhang *et al.* (6,194,740). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 2, 3, 5, 6, 9-12, 14, 15, 25, 28, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Miida (2002/134918 A1).

With respect to claims 9, 12, 25 and 28, Miida teaches a solid-state imaging apparatus (and associated method of use) comprising a detector for generating a first signal in response to photons incident thereupon (101); and

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multimode circuitry coupled to the detector for receiving the first signal and for generating a second signal representative of said first signal (105a, Fig. 2), said multimode readout circuitry switchable between two or more modes of operation, a desired mode of operation determined based on characteristics of said first signal (paragraph [0040]), wherein said multimode readout circuitry includes two or more capacitors having varying capacitance values, said two ore more capacitors being arranged in parallel (Cf, Fig. 2) and configured to be switched therebetween thereby providing two or more gains (paragraphs [0044]-[0047]), as well as a digital signal processor (column-type ADC, Fig. 2).

With respect to claims 2 and 3, Miida teaches changing the amplification factor based on the magnitude of the first signal relative to a threshold (input level of difference signal, paragraph [0040]) and the mode of operation includes amplification (paragraph [0017]).

With respect to claims 5 and 6, Miida, as applied above, further shows switches for changing the circuit configuration, wherein the switches may be manual or automatic (paragraph [0047]).

With respect to claim 15, Miida, as applied to claim 12 above, further shows a plurality of digital imaging apparatuses (Fig. 7).

With respect to claims 10 and 29, Miida teaches the circuit to function as a voltage amplifier (operational amplifier, paragraph [0018]).

With respect to claim 11, Miida teaches additional detectors (100) connected to the multimode circuitry section (105a/105b, Fig. 7).

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With respect to claim 14, Miida teaches at least three modes of operation (separate gains, wherein 1: SW 5 is engaged, 2: SW 6 is engaged, 3: both SW 5 and SW 6 engaged, and 4: neither switch is engaged).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miida, in view of Zhang *et al.* (6,194,740).

With respect to claim 13, Miida teaches that the individual switches may be replaced with transistors. Although Miida does not specify the type of transistors, amorphous silicon TFTs are known in the art for use as switching elements. Zhang teaches amorphous or polycrystalline silicon TFT switches (column 1, lines 42-49). It would have been obvious to one having ordinary skill in the art to use such TFT switches, due to their reliability and fast switching rates.

Allowable Subject Matter

7. Claims 20, 21, 26, and 27 are allowed.

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8. Claims 4, 7, 8, and 16-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claim 4, Miida does not teach the generation of a second signal representative of the first signal in two or more modes of operation, thereby generating two or more second signals representative of the first signal.

With respect to claims 7, 8, and 27, Miida discloses the automatic switches to be responsive to "signals from the outside". Miida does not teach the automatic switches to include a feedback circuit or to be responsive to a pre-programmed sequence.

With respect to claims 16-19, Miida, as applied above, does not show a particular group of two or more digital imaging apparatuses to have a common portion of the multimode readout circuitry.

With respect to claims 20, 21, and 26, Miida, as applied above, teaches the acquisition of a first set of signals from a detector (V_t and V_n , paragraph [0041]), and a voltage subtraction circuit (paragraph [0041]). However, Miida does not show the claimed readout circuitry which comprises a current subtraction circuit for generating a desired signal, and means for combining a signal generated based on the first signal and a desired signal.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARK R. GAWORECKI whose telephone number is (571)272-8540. The examiner can normally be reached on Tuesday through Friday, 6:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Porta/
Supervisory Patent Examiner, Art
Unit 2884

/M. R. G./
Examiner, Art Unit 2884
15 June 2009